

Amendments to the Specification:

Please replace paragraph [0122] with the following amended paragraph:

A platinum source 260 is a solid rod of material. According to this embodiment, the material is sputtered onto the substrate prepared as described above. The platinum powder is first mixed with aluminum powder. This mixing can be carried out using mechanical means for example, or it can be done using salt combination techniques as described above for the formulation of the anode ink. The platinum-aluminum mixture is sputtered onto the carbon paper backing using any known sputtering technique from the semiconductor arts.

Please replace paragraph [0135] with the following amended paragraph:

Flow Field. A fuel cell works properly only if fuel has been properly delivered to the membrane to be reacted an/or catalyzed. The membrane electrode assembly of the present invention uses a flow field assembly as shown in Fig. 5. Each membrane electrode assembly ("MEA") 302 is sandwiched between a pair of flow-modifying plates 304 and 312 which include biplates and end plates. A flow of fuel is established in each space 303 between each biplate/endplate and MEA. The collection of

biplates/endplates and MEA forms a "stack". The biplate includes provisions for fluid flow at both of its oppositely-facing surfaces. The end flowplate of the stack is an end plate 312 instead of a biplate. The endplate has chambers on one side only. The biplate 304 includes a plurality of separators 305, 306 and a plurality of chamber forming areas 308. The separators 306 have the function of pressing against the membrane electrode assembly 302. The end surface of separators 306 are substantially flat surfaces that contact the surface of the MEA 302.

Please replace paragraph [0136] with the following amended paragraph:

The biplates 315 are formed of an electrically conductive material in order to couple all the membrane electrode assemblies 302, 310 in series with one another.

Please replace paragraph [0137] with the following amended paragraph:

Membrane electrode assemblies 302, as described above include an anode, a membrane 318, and a cathode. The anode side 312 of each membrane electrode assembly is in contact with an aqueous methanol source in space 314. The cathode side of each membrane electrode assembly is in contact with an oxidant air

source 316 which provides the gaseous material for the reactions discussed above. The air can be plain air or can be oxygen.

Please replace paragraph [0168] with the following amended paragraph:

Fluid engineers have recognized that pumping gas is extremely expensive in terms of energy resources, while pumping liquid is extremely inexpensive. One aspect of the present invention may require pressurizing the air to the cathode. For example, the air may need to be pressurized to 20 psi. However, the output air on line [[944]] 945 (after reacting with the cathode) will be almost as highly pressurized. This output air [[944]] 945 will be pressurized to 19 psi. Accordingly, the output air 946 is coupled to a pressure-driven turbine [[946]] 947. This expander is run by pressure, and used to drive the air compressor 930. Without this recycling of the pressurized power, the air compressor might use as much as 20-30% of the power produced by the cell.